Rationale for Task Order Nos. 8, 9, & 10

Great Salt Lake Water Quality Studies - Selenium Program

PREPARED FOR: Bill Moellmer/UDWQ

PREPARED BY: Jeff DenBleyker/CH2M HILL

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The objective of this memorandum is to summarize the rationale for Task Order 8, *Peer Review for Brine Shrimp Kinetics Study,* Task Order 9, *Brine Shrimp Kinetics Study,* and Task Order 10, *Selenium Volatilization Flux.*

Background

A conclusion of the November 30 and 31, 2006 Science Panel meeting was that further research was needed to establish the link between waterborne Se concentrations and brine shrimp Se tissue concentrations via laboratory experiments. Rio Tinto had already begun work with Dr. Martin Grosell to complete such experiments independent of the DWQ's GSL program. The Panel asked Bill Adams to ask Dr. Grosell to begin preparing a proposal to complete the proposed work with the understanding that it would be completed under the DWQ's and Science Panel's oversight. Bill Adams thought the cost might be approximately $150,000.

The Science Panel also thought it would be beneficial to have Dr. Bill Johnson review literature values for a particular coefficient necessary to estimate volatilization flux and then possibly measure it on the GSL to verify the coefficient value. It was agreed that the project would be discussed at a later time.

Steering Committee Meeting, December 10, 2006

The conepts for Task Order Nos. 8, 9 and 10 were presented along with CH2M HILL's Task Order No. 7 to the Steering Committee. It was thought that the Science Panel would be able to convene by conference call the following week to review and provide recommendations on the proposals. The Steering Committee thought they could then reconvene by conference call before Christmas to review and approve the projects. Dr. Johnson was asked to estimate volatilization flux via published values. His proposed experiment could be discussed at a later time.

Science Panel Conference Call, January 4, 2007

A conference call with the Science Panel was held to define the need and objectives of the project. The discussion was documented in a meeting summary. The meeting summary was reviewed and approved by the Science Panel and disseminated to the Steering Committee. Please see summary for detail.

Need for Work (Task Order Nos 8 & 9)

The following questions were posed to the Science Panel on January 4, 2006:

1. Is the brine shrimp kinetics study essential to the overall selenium program for the Great Salt lake? *Science Panel members agreed that this study was essential in recommending a water quality standard.*

2. What are the objectives of this study? *The Science Panel identified five key objectives (see meeting summary).*
3. What is a reasonable schedule for the work? *Time is of the essence, 5-6 month window will likely be required, would like results in June/July 2007. Work needs to begin immediately. No time for full procurement process.*
4. Given the need for work and required time to complete the work, is Dr. Martin Grosell qualified to do the work? *Science Panel agreed that he was qualified, had radioisotopes in hand, had already been working on culturing required organisms – he is the best suited person to start immediately and meet schedule. Science Panel asked that someone else be identified to review his workplan and work deliverables.*

The Science Panel recommended that DWQ ask Dr. Grosell for a proposal to begin work immediately.

Peer Review of Brine Shrimp Kinetics Study (Task Order 8)

- The Science Panel provided four names of scientists who they judged were qualified to serve as peer reviewers for Dr. Grosell's work.
- Dr. Reinfelder knew of Dr. Grosell's work but did not have time to complete peer review.
- Dr. Buchwalter knew of Dr. Grosell's work and agreed to complete peer review.
- CH2M HILL has submitted Task Order No. 8 for this work.
- The fee will be approximately $10,000. Contract mechanisms are in place with Dr. Buchwalter and ready for signature.
- The Science Panel has already been given the workplan, cost and qualifications of Dr. Buchwalter. All comments received to date have been extremely favorable. We have formally asked for written confirmation of this recommendation from the Science Panel.

Brine Shrimp Kinetics Study (Task Order 9)

- The Science Panel has already discussed and approved the principal investigator (Dr. Martin Grosell), approximate cost (~$150,000), and project objectives. We have formally asked for written confirmation of this recommendation from the Science Panel.
- We expect Dr. Grosell's workplan on Thursday, February 9, 2007. He is ready to begin immediately if approved.
- Upon receipt of Dr. Grosell's workplan, CH2M HILL will forward it to Dr. Buchwalter and the Science Panel for review. This is why it is critical Task Order 8 be approved as soon as possible.
- Upon approval of the workplan by Dr. Buchwalter and the Science Panel AND approval by the Steering Committee and DWQ, Dr. Grosell will begin work. If Dr. Grosell starts next week, he should be complete by the end of July. If he starts in March, we will not have results until the end of August. Time is of the essence.

Volatilization Flux Experiment (Task Order 10)

DWQ and CH2M HILL are discussing further with Dr. Johnson and will present workplan to the Science Panel for their review and recommendation. This task order may follow the others by about 1-2 weeks. It is important to move forward with the others while objectives for this study are finalized. Essential to this work is that results address the objective originally discussed by the Science Panel and be made available in May or June 2007.